

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Currently Amended): A thin-film magnetic head comprising:

an inductive write head element including an upper core layer with a front end section magnetically coupling with an upper magnetic pole, a lower core layer with a front end section magnetically coupling with a lower magnetic pole, a coil conductor formed to pass between said upper core layer and said lower core layer, and a coil insulation layer for sandwiching said coil conductor;

at least one thermal diffusion layer with a good thermal conductivity in contact with said coil insulation layer at an outside region of said upper core layer, wherein no protection layer is present on the thermal diffusion layer; and

a thin coating film ~~formed on~~ in contact with said at least one thermal diffusion layer, only said thin coating film being formed on said at least one thermal diffusion layer, said thin coating film being made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co.

Claim 2 (Original): The thin-film magnetic head as claimed in claim 1, wherein said at least one thermal diffusion layer is formed at a rear outside region of said upper core layer.

Claim 3 (Original): The thin-film magnetic head as claimed in claim 1, wherein said at least one thermal diffusion layer is formed at a lateral outside region of said upper core layer.

Claims 4 and 5 (Canceled)

Claim 6 (Original): The thin-film magnetic head as claimed in claim 1, wherein said at least one thermal diffusion layer is made of a material with a thermal conductivity higher than that of Al_2O_3 .

Claim 7 (Original): The thin-film magnetic head as claimed in claim 1, wherein said at least one thermal diffusion layer is made of a material with a thermal expansion coefficient lower than that of Al_2O_3 .

Claim 8 (Original): The thin-film magnetic head as claimed in claim 1, wherein said at least one thermal diffusion layer is made of a material selected from Au, Ag, Si, Zn, Al, Ir, Cd, Sb, W, Ta, Fe, Pb, Ni, Pt, Pd, Mg and Mo, or an alloy containing at least one of Au, Ag, Si, Zn, Al, Ir, Cd, Sb, W, Ta, Fe, Pb, Ni, Pt, Pd, Mg and Mo.

Claim 9 (Currently Amended): A thin-film magnetic head comprising:
an inductive write head element including an upper core layer with a front end section magnetically coupling with an upper magnetic pole, a lower core layer with a front end section magnetically coupling with a lower magnetic pole, a coil conductor formed to pass

between said upper core layer and said lower core layer, and a coil insulation layer for sandwiching said coil conductor;

at least one thermal diffusion layer with a good thermal conductivity formed at an outside region of said upper core layer, said at least one thermal diffusion layer being in contact with a part of said coil conductor or constituting a part of said coil conductor, wherein no protection layer is present on the thermal diffusion layer; and

a thin coating film ~~formed on~~ in contact with said at least one thermal diffusion layer, only said thin coating film being formed on said at least one thermal diffusion layer, said thin coating film being made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co.

Claims 10 and 11 (Canceled)

Claim 12 (Original): The thin-film magnetic head as claimed in claim 9, wherein said at least one thermal diffusion layer is made of a material with a thermal conductivity higher than that of Al_2O_3 .

Claim 13 (Original): The thin-film magnetic head as claimed in claim 9, wherein said at least one thermal diffusion layer is made of a material with a thermal expansion coefficient lower than that of Al_2O_3 .

Claim 14 (Original): The thin-film magnetic head as claimed in claim 9, wherein said at least one thermal diffusion layer is made of a material selected from Au, Ag, Si, Zn, Al, Ir,

Cd, Sb, W, Ta, Fe, Pb, Ni, Pt, Pd, Mg and Mo, or an alloy containing at least one of Au, Ag, Si, Zn, Al, Ir, Cd, Sb, W, Ta, Fe, Pb, Ni, Pt, Pd, Mg and Mo.

Claims 15-48 (Canceled)